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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/879,098 | 06/13/2001 | Mayumi Tomikawa | 826.1729 | 3219 |
| <div>21171 7590 02/07/2008</div> <div>STAAS & HALSEY LLP</div> <div>SUITE 700</div> <div>1201 NEW YORK AVENUE, N.W.</div> <div>WASHINGTON, DC 20005</div> | | | | |
| | | | <div>EXAMINER</div> <div>ADDY, THJUAN KNOWLIN</div> | |
| | | | <div>ART UNIT</div> <div>2614</div> | <div>PAPER NUMBER</div> |
| | | | <div>MAIL DATE</div> <div>02/07/2008</div> | <div>DELIVERY MODE</div> <div>PAPER</div> |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/879,098

Applicant(s)

TOMIKAWA ET AL.

Examiner

Thjuan K. Addy

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-24 and 26-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 08/15/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on November 19, 2007 has been entered. No claims have been amended. Claims 14 and 25 have been cancelled. Claim 31 has been added. Claims 1-13, 15-24, and 26-31 are now pending in this application, with claims 1, 13, 15, 19, 20, 21, 22, 23, 24, 27, 28, 30, and 31 being independent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13, 15-24, and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodialam et al (US 6,778,531), in view of Weaver (US 6,574,669), in view of Nakamichi et al. (US 6,859,842), and further in view of Sim (US 7,181,523).
3. In regards to claims 1, 4, 6, 7, 9, 10, 13, 15, 16, 17, 19, 20, 21, 22, 23, 24, 27, 30, and 31, Kodialam discloses a distribution route generation apparatus and method (See col. 3-4 lines 51-21), comprising: a collection device (See Fig. 3 and network management module 305) collecting information about a communication cost between a plurality of nodes (See Fig. 3 and nodes N1-N11) of a communication network (See Fig. 3 and network 300) (See col. 1-2 lines 53-8, col. 5 lines 1-25, col. 8 lines 4-12, and col.

10 lines 30-48) the nodes including a plurality of redistribution servers (e.g. distributed router servers, See col. 5 lines 1-12) which copy and branch streaming data at respective branch points in the communication network to multi-cast the streaming data in an application layer (See col. 1 lines 14-30); a generation device (e.g. router server within the network management module 305 or See Fig. 6, router 600, and col. 14 lines 46-63) automatically generating distribution route information, which indicates a plurality of distribution routes to a plurality of clients on the communications network through at least one of the redistribution servers from a source, based on the information about the communications cost when streaming data are originated and distributed from the source to the plurality of clients; and an output device (e.g. multicast routing tree or server) outputting the distribution route information (See col. 3 lines 13-24, col. 6 lines 14-36, col. 7 lines 25-41, and col. 11-12 lines 63-11). Kodialam, however, does not cost as being based on delay and number of hops, stream rate, reference rate, predetermined value as an additional cost, and coefficients used to convert delay to number of hops. Weaver, however, does disclose cost as being based on delay, number of hops, stream rate (e.g., speed), and predetermined value (e.g., cost of route, which is typically a metric defined by an administrator) as an additional cost (See col. 1 lines 35-58), therefore, it would have been obvious to use such things as coefficients to convert delay to number of hops, to determine cost. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate these features within the apparatus and method, as a way of calculating in order to decide whether to move content based upon calculation, such as delay, number of

hops, stream rate (e.g., speed), and predetermined value (e.g., cost of route, which is typically a metric defined by an administrator) as an additional cost. This would improve and optimize the delivery of content to client devices and end-users. Kodialam, neither Weaver, however, disclose cost as being based on reference rate. Nakamichi, however, does disclose cost as being based on reference rate (e.g., transmission speed) (See col. 2 lines 13-21). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate this feature within the apparatus and method, as a way of effectively dispersing traffic load to the selected paths on the network and effectively optimizing the use of network resources.

Kodialam, neither, Weaver, nor Nakamichi, disclose a plurality of distribution routes to a plurality of clients on the communications network forced to pass through at least one of the redistribution servers from a source. Sim, however, does disclose a plurality of distribution routes to a plurality of clients (e.g., nodes or servers, such as server 401 in San Diego, server 402 in San Jose, and server 403 in San Francisco, See Fig. 4) on the communications network forced (e.g., pushed) to pass through at least one of the redistribution servers (See Fig. 3 and file server(s) 302 and/or 308) from a source (See Fig. 3 and master server 301) (See col. 5 lines 18-44). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate this feature within the method, as a way of delivering large payloads (e.g., files) closer to users in a network environment.

4. In regards to claims 2, 3, and 18, Kodialam discloses all of claims 2, 3, and 18 limitations, except the distribution route generation apparatus, wherein said generation

device generates the distribution route information by selecting a receiver node in such a way that a communications cost between the source and the receiver node is minimized. Weaver, however, does disclose the distribution route generation apparatus, wherein said generation device generates the distribution route information by selecting a receiver node in such a way that a communications cost between the source and the receiver node is minimized (See col. 1 lines 35-44).

5. In regards to claim 5, Kodialam discloses the distribution route generation apparatus, wherein said generation device divides the nodes into the groups using a branch in which a communications cost between nodes is equal to or more than a threshold value, as a boundary (See col. 1-2 lines 53-8, col. 8 lines 4-12, col. 11-12 lines 63-11, and col. 13 lines 52-67).

6. In regards to claim 8, Kodialam discloses the distribution route generation apparatus, wherein said restriction device detects a router located within a first restricted number of hops from a measuring node performing measurement, based on information about a route from the source to the measuring node and designates a node located within a second restricted number of hops from the detected router as a measurement target (See col. 3 lines 29-48 and col. 10 lines 30-48).

7. In regards to claims 11 and 12, Kodialam discloses all of claims 11 and 12 limitations, except the distribution route generation apparatus, wherein said generation device further generates distribution route information indicating a substitute distribution route, excluding a part in which a failure is anticipated to occur on the communications network. Sim, however, does disclose the distribution route generation apparatus,

wherein said generation device further generates distribution route information indicating a substitute distribution route, excluding a part in which a failure is anticipated to occur on the communications network (See col. 36-37 lines 62-14).

8. In regards to claim 26, Kodialam discloses all of claim 26 limitations, except a system, wherein the network comprises the Internet. Sim, however, does disclose a system, wherein the network comprises the Internet (See col. 6 lines 53-65).

9. In regards to claim 28, Kodialam discloses all of claim 28 limitations, except the specific calculations, in which $\text{cost} = \text{number of hops} + \alpha * \max(0, \text{delay} - \beta) * \text{stream rate} / \text{reference rate} + \text{predetermined value}$ and where alpha and beta are coefficients to convert delay to number of hops. Weaver, however, does disclose cost as being based on delay, number of hops, stream rate (e.g., speed), and predetermined value (e.g., cost of route, which is typically a metric defined by an administrator) as an additional cost (See col. 1 lines 35-58), and Nakamichi discloses cost as being based on reference rate (e.g., transmission speed) (See col. 2 lines 13-21). Although, Weaver, neither Nakamichi disclose the specific formula recited in claim 28, Weaver does use some the Dijkstra algorithm to calculate routes (See col. 1 lines 45-51).

10. In regards to claim 29, Kodialam discloses all of claim 29 limitations, except a method, wherein the predetermined value is set by a network manager to restrict flow through a route. Weaver, however, does disclose a method, wherein the predetermined value (e.g., cost of route) is set by a network manager (e.g., administrator) to restrict flow through a route (See col. 1 lines 35-58).

Response to Arguments

11. Applicant's arguments with respect to claims 1-13, 15-24, and 26-31 have been considered but are moot in view of the new ground(s) of rejection.

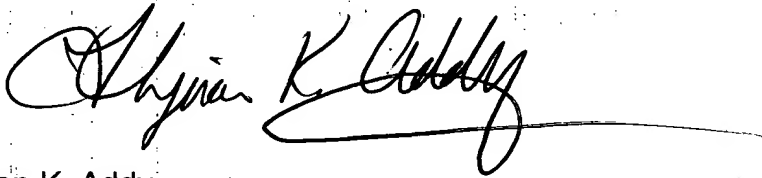
Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lahr (US Patent Application, Pub. No.: US 2002/0023165 A1) teaches a method and apparatus for encoder-based distribution of live video and other streaming content.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thjuan K. Addy whose telephone number is (571) 272-7486. The examiner can normally be reached on Mon-Fri 8:30-5:00pm.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on (571) 272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Thjuan K. Addy", with a long horizontal flourish extending to the right.

Thjuan K. Addy
Patent Examiner
AU 2614